

NOTES ON THE ALOES OF SOMALILAND PROTECTORATE

By G. W. REYNOLDS

With Descriptions of Eight New Species
By G. W. REYNOLDS and P. R. O. BALLY

(With Plates XVII—XXXII)

Before the turn of this century, several renowned botanical travellers had traversed parts of the country now known as Somaliland Protectorate.

Hildebrandt had made a short trip from Berbera westwards to Bulhar, and later, in 1875, he visited the Surud (Erigavo) and Al Madu areas in the far east. The outstanding travellers from the Aloe point of view were Ruspoli and Riva in 1894–95, but they contributed nothing from the Protectorate.

Aloe megalacantha Baker was described in *Fl. Trop. Afr.* 7 : 469 (1898) from material gathered by Riva on 2 January 1893, at Mil Mil in the Ogaden (Ethiopia), which is about 100 miles south of Hargeisa, the present capital of Somaliland Protectorate. This is surprising because the same species grows in considerable numbers for many miles around Hargeisa, but had repeatedly been mistaken for *A. abyssinica* Lam. (see below).

The first species of Aloe to be described (in 1899) from Somaliland Protectorate was *A. somaliensis* Watson, plants of which had been raised at Kew from seeds collected by Miss Edith Cole in 1895, probably near Upper Sheikh in the Golis Range south of Berbera.

In the territory now known as Somalia (Italian Mandate) the travellers contributing most to Aloe knowledge were Riva 1894, Stefanini and Paoli 1913, and Stefanini and Puccioni 1924.

In 1931, Mr. J. B. Gillett travelled in western Somaliland and in the Harar Province of Ethiopia. He published *The Plant Formations of Western British Somaliland and the Harar Province of Abyssinia* in *Kew Bull.* No. 2 (1941). This comprehensive ecological work includes a large list of the names of plants he had collected together with many vernacular names. Subsequently, in 1952, Mr. Gillett worked along the southern boundary of Ethiopia with the Kenya-Ethiopian Boundary Commission and during those travels he sent many Aloe plants to me, together with photographs and field notes, for which I am most grateful.

Mr. Gillett's list (*Kew Bull.*, p. 182) includes the following species of Aloe (with my own comments added):

- (1) *A. abyssinica* Lam. Hargeisa.—This was wrongly identified. The species growing in considerable numbers near Hargeisa is *A. megalacantha* Bak. *A. abyssinica* was described by Lamarek in 1783 from a plant brought back to Paris by Bruce, presumably from Eritrea or Northern Ethiopia. The identity of *A. abyssinica* is still unknown. The subject is discussed, and a photograph of the type material in Paris is reproduced in *Journ. S.A. Bot.* 22 : 151, Pl. 29 (1956).
- (2) *A. aethiopica* (Schweinf.) Berger.—This species does not occur in any part of Somaliland Protectorate, or in Southern Ethiopia. *A. elegans* Tod. ($\equiv A. aethiopica$ (Schweinf.) Berger) grows abundantly in Northern Ethiopia and Eritrea.—See *Journ. S.A. Bot.* 22 : 153, Pl. 30-33 (1956).
- (3) *A. Rivae* Bak. Daar Burug.—The species growing near Darburruk, 54 miles north-east of Hargeisa on the road to Berbera was incorrectly identified. The Darburruk species is a shrub with erect stems 1—1.5 met. long; leaves 25 cm. long, 5—6 cm. broad; inflorescence a branched panicle 45 cm. tall; racemes 3 cm. long; pedicels 5—6 mm. long; perianth yellow, averaging 20 mm. long, all lying along the upper side of the axis and pointing backwards. This is one of the eight new species described below.

It is in all ways different from *A. Rivae*, which was described from material gathered by Riva on 7 November 1893 in north-west Borana, Southern Ethiopia.

Mr. Bally and I found large numbers of *A. Rivae* on lower slopes of Mega Mountain, and near Yavello, 66 miles to the north. *A. Rivae* is not of shrubby growth. Leaves are densely rosulate, up to 50 cm. long, 17 cm. broad; pedicels 12 mm. long; perianth scarlet, averaging 33 mm. long.—See *Journ. S.A. Bot.* 20 : 39, Pl. 6 (1954).

- (4) *A. somalienses* Watson (not C. H. Wright). Near Hargeisa.—This is correct. Mr. Gillett's material n. 3996 in Kew is conspecific with the species raised at Kew from seeds gathered by Miss Edith Cole in 1895, probably near Upper Sheikh in the Golis Range south of Berbera.
- (5) *A. Steudneri* Schweinf. Satoa tug, long. 43° 5' E., lat. 9° 59' N.—Judging from the latitude and longitude given by Mr. Gillett, the locality appears to be a few miles north-west of Borama in Western Somaliland.

A. Steudneri was described and figured in *Bot. Mag. t.* 8448 (1912) from Mt. Sabr in Northern Eritrea. Neither Mr. Bally nor I have found any species near Borama or elsewhere in Somaliland, that resembles the *Bot. Mag.* figure.

- (6) *A. trichosantha* Berger. Hargeisa: *Daar merodi*.—I have not seen *A. trichosantha* near Hargeisa or elsewhere in the Protectorate. A species, related to *A. trichosantha* but differing in having larger rosettes, much larger leaves, and perianths minutely pubescent (not conspicuously albo-tomentose), was found by Mr. Bally, and also independently by myself, from the Borama district eastwards to the foot of Sheikh Pass and elsewhere. Possibly this was the species seen by Mr. Gillett. It is called *Daar merodi* by the Somalis, and also grows about 20 miles north of Hargeisa (with *A. somaliensis* and *A. megalacantha*). This is one of the eight new species described below.

It is also necessary to discuss the Aloes listed by Major P. E. Glover in his *A Provisional Check List of British and Italian Somaliland Trees, Shrubs and Herbs* (1947). The Aloes listed on p. 321 include those in the Protectorate, the "Reserved Area" now returned to Ethiopia, and Italian Somalia.

The following is Glover's list of Aloes, with my own comments:

- (1) *A. abyssinica* Lam.—See above.
(2) *A. aethiopica* (Schweinf.) Berger.—See above.
(3) *A. ambigens* Chiov.—This is a *species non satis cognita*. It was described from: Somalia Media, Sultanate of Obbia, between Attodi and Dolobscio, 26 April 1924. Puccioni et Stefanini n. 447 (499). Habit of growth and leaves unknown.—See *Journ. S.A. Bot.* 20 : 34 (1954).
(4) *A. defalcata* Chiov. *Bahar*.—This "species" was described in *Fl. Somalia* 2 : 424 (1932) from Somalia, Oltregiuba near Uar Seek (Dr. R. Guidotti 1931 n. 64). This is a mixture of species and cannot be upheld. The leaves of *A. microdonta* were combined with the flowers of *A. Ruspoliana*.—See *Journ. S.A. Bot.* 20 : 34 (1954).
(5) *A. megalacantha* Bak.—This is the species of shrubby growth found abundantly for many miles around Hargeisa, near Borama, and elsewhere. It also occurs in large numbers near Dire Dawa, Harar Prov. Ethiopia. Type locality is Mil Mil, about 100 miles south of Hargeisa, Ogaden, Ethiopia.
(6) *A. microdonta* Chiov.—Widely distributed in Central and

Southern Somalia. See *Journ. S.A. Bot.* 20 : 31, Pl. 5, Figs. 1-3 (1954). Does not occur in Somaliland Protectorate.

- (7) *A. otallensis* Baker.—Not known in Somaliland Protectorate. This species occurs in Borana, Southern Ethiopia, from near Agere Mariam to Yavello and Dubuluck to Mega. Also occurs near Moyale in the Northern Province of Kenya.
- (8) *A. percrassa* Tod.—This species does not occur in Somaliland Protectorate. I have found it only at 8,000 ft. and higher in Northern Ethiopia and on the Kohaito Plateau, Eritrea. *A. percrassa* is characterised by having very large rosettes of leaves, a branched inflorescence, racemes cylindric-conic, pedicels 15—20 mm. long, and scarlet perianths averaging only 20 mm. long.
- (9) *A. Pirottae* Berger.—This species, found mostly under thorn bushes, occurs in some numbers on the Burao-Las Anod road near Kirit. and between Kirit and Ainabo. The furthest north known (10° 07' N.) is 24 miles north of El Afwein, which is 41 miles south of Erigavo.
- (10) *A. Rivae* Bak. *Daar burug*, *Da-ar buruk*.—See above. (*A. somaliensis* Watson is not included in Glover's list.)

Between 1943 and 1957 Mr. P. R. O. Bally visited the Protectorate on six occasions. He paid particular attention to the Aloes and sent many Aloe plants to me, together with photographs and field notes, which proved invaluable when I visited the Protectorate in August and September 1957 investigating only the Aloes. During my travels I visited every part of the Protectorate that I could reach and travelled over 2,700 miles. I could not reach the Al Madu area in the far east, but Mr. Bally has investigated the Aloes there. Included in several Aloes found in the eastern Al Madu, was one species with almost biconvex leaves, not known elsewhere.

It now seems that the Aloes of Somaliland Protectorate have been as fully investigated as is possible.

From the combined travels and investigations of Mr. Bally and myself, it can now be stated that there is a minimum of nineteen distinct species of Aloe occurring in Somaliland Protectorate. Seven are named species and twelve are undescribed. The seven named species are:

- (1) *A. jucunda* Reynolds. Gaan Libah. A very small species growing in dense groups, leaves only 4 cm. long, 2.5 cm. broad, inflorescence simple, 30 cm. tall.—See *Journ. S.A. Bot.* 19 : 21, Pl. 11 (1953).
- (2) *A. Peckii* Bally et Verdoorn. A striking species with marbled olive-green leaves, a branched inflorescence and straw-coloured

- perianths with brownish stripes longitudinally. Abundant near Erigavo and in the Al Madu area.—See *Fl. Plants Afr.* 31: Pl. 1214 (1956).
- (3) *A. somaliensis* Watson. Sheikh Pass, Upper Sheikh, north of Hargeisa, Borama. A stemless species with glossy spotted leaves, branched inflorescence, and scarlet cylindric-trigonus perianths averaging 28—30 mm. long.
- (4) *A. inermis* Forsk. Las Anod, Taleh, Halin. Stemless, forms dense groups, leaves 25 cm. long, 6 cm. broad, entire, inflorescence branched, pedicels 5 mm. long, perianth dull scarlet, cylindric-trigonus 22 mm. long. Originally described from Arabia.
- (5) *A. Pirottae* Berger. Ainabo; Kirit; 40 miles south of Erigavo. Grows mostly under thorn bushes. Stemless, forms groups. Leaves dark brownish green, 35 cm. long, 7 cm. broad, margins dentate and somewhat involute; inflorescence branched, 1 met., racemes subclaxly flowered and 12—15 cm. long, pedicels 5 mm. long, perianth scarlet, cylindric-trigonus, 30 mm. long.
- (6) *A. tomentosa* Defflers. Abundant at Moledera, 40 miles south of Erigavo. Forms dense groups. Leaves entire or margins minutely dentate, inflorescence 3—4-branched, perianths remarkably tomentose, averaging 26 mm. long. Originally described from Arabia.
- (7) *A. megalacantha* Bak. (= *A. magnidentata* Christian). Abundant near Hargeisa, Borama, etc. A shrub with stems up to 75 cm. tall, leaves deeply channelled and recurved, inflorescence a many-branched panicle, perianth red to orange and yellow, cylindric-trigonus, 26—30 mm. long. Type locality is Mil Mil, 100 miles south of Hargeisa.

Of the twelve undescribed species, four are awaiting flowers, and are being cultivated in Johannesburg.

The four species are:

- (1) A small sub-shrubby species on precipice faces one mile north of Daloh, about 12 miles north of Erigavo. This species is much branched at base, with stems 10—20 cm. long, leaves averaging 10 cm. long, 2 cm. broad, inflorescence simple and about 30 cm. long. Flowers not yet seen.
- (2) A species in Sect. *Saponariae*, allied to *A. lateritia* Engler, found near the top of Sheikh Pass and elsewhere.
- (3) A species with very thick, almost bi-convex leaves found by Mr. Bally in the far eastern Al Madu near Baditur (Bally 10929).

- (4) A species in considerable numbers on both sides of Helidera Tug, in the far-eastern parts of the Protectorate, about 17 miles north-east of Halin, and near the Somalia border. This species has a stem of up to 1 met., leaves up to 60 cm. long, 12 cm. broad, and a many-branched inflorescence 1 met. and more high with the branches horizontally disposed. Flowers not seen.

The remaining eight species can now be described and figured, and because of the considerable and invaluable assistance that I have received from Mr. Bally, over many years, his name is joined as co-author.

A. scobinifolia Reynolds et Bally. Species nova, affinis *A. elegans* Tod. (Eritrea), foliis brevioribus marginibus integris, racemis brevioribus, floribus brevioribus cylindrico-clavatis differt.

Planta succulenta, acaulis vel breviter caulescens. *Folia* 16—20, dense rosulata, arcuato-adscendens, anguste lanceolato-attenuata, 30 cm. longa, 7 cm. lata, 12—15 mm. crassa; *supra* planiuscula vel leviter canaliculata; *subtus* convexa, utrinque viridula, aspera, marginibus integris. *Inflorescentia* paniculata, 5—8-ramosa, 60—70 cm. alta. *Racemi* dense corymboso-capitati, 3—4 cm. longi, 6 cm. diametro. *Bractee* anguste deltoideae, 8 mm. longae, 2 mm. latae, scariosae, albiae, 3—5-nervatae. *Pedicelli* 15—18 mm. longi. *Perianthium* luteum, aurantiacum vel coccineum, cylindrico-clavatum, 22 mm. longum; *segmenta exteriora* per 9—10 mm. libera, obscure 3-nervata. *Antherae* 3—4 mm. exsertae. *Stigma* demum 5 mm. exserta. *Ovarium* viridula, 6 mm. longum, 2.5 mm. diametro. (Plates XVII, XVIII.)

HABITAT: Somaliland Protectorate: In considerable numbers near Erigavo, c. 10° 37' N., 47° 22' E., alt. 5,500 ft., fl. 8 Sept. 1957, Reynolds 8403 (red flowers) holotype (PRE), isotype (K, EA); same locality, yellow flowers, Reynolds 8402 (PRE, K, EA); Agasur, eastern Al Madu, 10 Oct. 1956, Bally 11019 (EA).

A. scobinifolia occurs in vast numbers near Erigavo, for 30 miles along the road southwards towards El Afwein, and along the road north-eastwards to Medishe. Mr. Bally has found this species in considerable quantities much further east on the Al Madu, and at Agasur where a form occurs with horny leaf margins with minute widely-spaced teeth.

The typical form is characterised by having leaves that are rough to the touch, like shark skin, and margins with a very narrow pinkish smooth edge without teeth.

Flower colours vary from yellow to orange and scarlet and provide a magnificent blaze of colour when flowering in their hundreds of thousands all around Erigavo.

REVISED DESCRIPTION OF OXYMITRA CRISTATA

by

S. GARSIDE

(to be inserted on p. 83, *Jnl. S. Af. Botany*, Vol. XXIV, Part II, April 1958)

Oxymitra cristata, sp. nov.

Monoica. Frondes caespitosae confertae, intense virides, integrae vel furcatae, apice rotundatae; squamae ventrales biseriatae, atro-violaceae vel basin versus gradatim hyalinae, oblique triangulares, magnae denseque imbricatae, apice longe cuspidatae, marginem frondis bene superantes, in apicem frondis hamatim incurvae.

Stomata simplicia 5—4—6 cellulis, parietibus radiantibus parum incrassatis, cincta.

Antheridia in pulvillos medianos lineares disposita, ostiolis longe eminentibus, basi minute bracteatis atque cum aetate purpurascentibus.

Archegonia ante antheridia posita, in seriem unicam linearem disposita atque in involucra connata immersa, cristam medianam prominentem crenatam formantia. Bractee desunt.

Sporae angulares nigrescentes, 100—115 μ in maximo diametro; exterior facies irregulariter reticulata, interiores facies laeves; ala angusta, usque ad 5 μ lata, margine integra vel crenata.

Type in Herb. Bolus, Schelpe 5900. Duthie 5531.



PLATE XVII. *Aloe scobinifolia* Reynolds et Bally
Flowering in considerable numbers near Erigavo; September 1957. Height 60–70 cm.

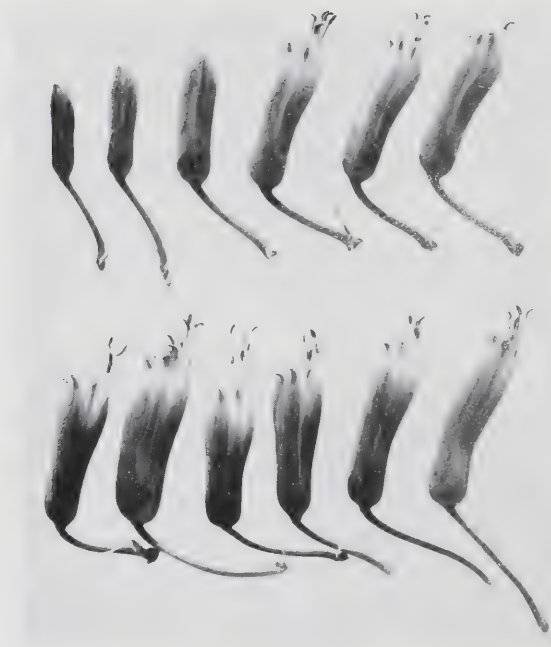


PLATE XVIII. *Aloe scobinifolia* Reynolds et Bally
Upper row: Flowers 1/1 from bud to post-pollination stage. *Lower row:* Flowers 1/1,
gathered at random, showing variation.

This charming species prefers exposed stony gypsum soils, and is found mostly between 5,000 ft. and 5,500 ft. Flowering period is from September to November.

The Somalis refer to it only as *Daar*.

A. scobinifolia is nearest allied to *A. elegans* Tod. (= *A. aethiopica* (Schweinf.) Berger) which grows in Tigre, Northern Ethiopia, and is especially abundant in many parts of Eritrea. *A. elegans* differs in being a much larger plant, with larger smooth leaves, prominent marginal teeth, and longer less clavate flowers.—See *Journ. S.A. Bot.* 22 : 153, Pl. 30—33 (1956) for description and figures of *A. elegans* Tod.

DESCRIPTION: *Plant* sometimes solitary, usually forming small groups.

Stem none or short.

Leaves 16—20, densely rosulate, arcuate-ascending, narrowly lanceolate-attenuate, averaging 30 cm. long, 7 cm. broad at base, 12—15 mm. thick, narrowing to an acute spiny point; *upper surface* flat to slightly canaliculate; *lower surface* convex; *both surfaces* unicoloured dull green, rough to the touch; *margins* with very narrow pale pink cartilaginous edge, without teeth; *sap* dries deep brown.

Inflorescence a branched panicle averaging 60—70 cm. high, 2—4 simultaneously.

Peduncle basally plano-convex and 15—20 mm. broad, terete upwards, brown with a bloom, minutely white-speckled, averaging 5—8-branched, the lowest branch sometimes with a short branch high up.

Racemes corymbose-capitate, densely flowered, 3—4 cm. long, 6 cm. diam., youngest buds obliquely to horizontally spreading, open flowers nutant to pendulous.

Bracts narrowly deltoid, deflexed, 8 mm. long, 2 mm. broad, thin, scarious, white, 3—5-nerved.

Pedicels suberectly spreading, 15—18 mm. long, the bud pedicels almost as long as those of open flowers.

Perianth yellow, orange or scarlet, cylindric-clavate, trigonous, averaging 22 mm. long, basally obtuse and shortly stipitate, 4—5 mm. diam. across the ovary, thence trigonous-clavate, the mouth wide open; *outer segments* free for 9—10 mm., obscurely 3-nerved, the apices subacute, slightly spreading; *inner segments* broader than the outer and with more obtuse more spreading apices.

Filaments lemon, filiform-flattened, the three inner narrower and lengthening before the 3 outer with their *anthers* in turn exserted 3—4 mm.

Stigma at length exserted 5 mm. *Ovary* pale green, 6 mm. long 2.5 mm. diam.

A. breviscapa Reynolds et Bally. Species nova, affinis *A. tomentosae* Deflers (Arabia), inflorescentia breviora ramosiore foliis vix superans, floribus longioribus glabris differt.

Planta acaulis vel caulibus decumbentis .5—1 met. longis. *Folia* c. 24, dense rosulata, lanceolato-attenuata, 30—35 cm. longa, 8—10 cm. lata; *supra* basi planiuscula, superne leviter canaliculata; *subtus* convexa; *marginibus* integris vel basi dentibus .1—2 mm. longis, 10 mm. distantibus superne integris. *Inflorescentia* paniculata, arcuato-adscendens, c. 50 cm. longa. *Racemi* erecti, cylindrici, laxi, 20—25 cm. longi, 6 cm. diametro. *Bractae* ovato-acutae, 6 mm. longae, 3 mm. latae, scariosae, albidae, 1—3-nervatae. *Pedicelli* 10—14 mm. longi. *Perianthium* coccineum, cylindrico-trigonum, 26—30 mm. longum, circa ovarium 8 mm. diametro; *segmenta exteriora* per 10 mm. libera, 3-nervata; *antherae* 2—3 mm. exsertae; *stigma* demum 4 mm. exserta. *Ovarium* viridulum, 6 mm. longum, 3 mm. diametro. (Plate XIX.)

HABITAT: Somaliland Protectorate: 40 miles east of Erigavo, 4,700 ft., 20 Oct. 1956, Bally B 11188 (EA); 48 miles east of Erigavo on road to Hadaftino, 4,600 ft., c. 10° 45' N., 48° 03' E., 14 Sept. 1957, Reynolds 8452, holotype (PRE), isotype (K, EA).

A. breviscapa occurs in considerable numbers on stony gypsum plains on the road eastwards from Erigavo to Hadaftino from mile 40 to mile 54 near Hadaftino at about 4,600 ft., alt., thence eastwards towards Baran for 20 miles and occasionally on the Shemis Plain to near Huberra. It occurs occasionally in broken country for about 40 miles south-eastwards from Huberra to near Buran near the Somalia border.

Plants near Buran were not flowering when I was there, but they appear to be weaker forms of the species.

A. breviscapa is characterised by forming small to large dense groups, and by having leaves that vary from entire to partly dentate. When marginal teeth are present they occur only on the lowest third of leaf margins, the teeth being obtuse, 1—2 mm. long and 10 mm. apart, obsolescent upwards. The rosettes almost lie on their sides, and the terminal raceme of the arcuate-ascending inflorescence is usually only slightly higher than the tips of the uppermost leaves. The perianths are smooth.

In habit of growth, and in leaf characters, *A. breviscapa* bears a striking resemblance to *A. tomentosa* Deflers which occurs in vast numbers near Moledera, 40 miles south of Erigavo on the road to El Afwein, but the latter has a much taller less branched erect inflorescence, denser racemes, larger bracts, and shorter remarkably shaggy-tomentose perianths.



PLATE XIX. *Aloe breviscapa* Reynolds et Bally
 Plant on gypsum plains 48 miles east of Erigavo on road to Hadaaftino. Height 50 cm.
 Flowers 1/1 from bud to post-pollination stage.

DESCRIPTION: *Plants* forming small to large dense groups.

Stem short or 50 cm. long, decumbent, sometimes up to 1 met. in old specimens, with old dried leaf remains persistent, the rosettes usually decumbent.

Leaves about 24, densely rosulate, lanceolate-attenuate, averaging 30—35 cm. long, 8—10 cm. broad at base, narrowing to an acute apex; *upper surface* unicoloured bluish grey with reddish tinge, without spots or markings, flat low down, slightly canaliculate upwards; *lower surface* rounded; *margins* usually entire, sometimes with a few very short blunt teeth 1—2 mm. long, 10 mm. apart in basal quarter only, thence entire upwards; *sap* dries yellow.

Inflorescence a branched arcuate-ascending panicle about 50 cm. tall, the terminal raceme usually only slightly higher than the tips of the leaves.

Peduncle brown with a bloom, plano-convex and 12 mm. broad at base, terete upwards, divaricately 4—8-branched from low down.

Racemes ascending, rather laxly-flowered, cylindric, 20—25 cm. long 6 cm. diam., youngest buds obliquely spreading, open flowers nutant.

Bracts ovate-acute, 6 mm. long, 3 mm. broad, thin, scarious, white, 1—3-nerved.

Pedicels 10—14 mm. long, obliquely spreading with apex nutant.

Perianth glabrous, cylindric-trigonous, 26—30 mm. long, scarlet with a bloom, greenish at mouth, 8 mm. diam. across the ovary, thence slightly narrowed on underside and slightly decurved, the mouth wide open; *outer segments* free for 10 mm., thinner at margins, 3-nerved the nerves turning greenish at apex, the apices subacute slightly spreading; *inner segments* broader than the outer, with broad white marginal border, prominently keeled, the apices more obtuse and more spreading than the outer.

Filaments lemon, the 3 inner narrower and lengthening before the 3 outer with their *anthers* in turn exerted 2—3 mm. *Stigma* at length exerted 3—4 mm. *Ovary* pale green, 6 mm. long, 3 mm. diam.

A. rigens Reynolds et Bally. Species nova, affinis *A. trichosanthae* Berger, foliis majoribus, perianthio brevissime pubescente differt.

Planta acaulis vel breviter caulescens. *Folia* c. 24, dense rosulata, arcuato-adscendens vel suberecto-patentia, rigidissima, 60—80 cm. longa, 12—15 cm. lata, sensim attenuata, 15—25 mm. crassa; supra viridula, leviter canaliculata, subtus convexa, marginibus dentibus deltoideis 4—6 mm. longis, 20—35 mm. distantibus armata. *Inflorescentia* saepe 3-ramosa, 1.25—1.75 met. alta. *Racemi* cylindrico-acuminati, 20—30 cm. longi, 6 cm. diametro. *Bractae* usque ad 15 mm. longae, 6 mm.

latae, albidae, 7—9-nervatae. *Pedicelli* 5—6 mm. longi. *Perianthium* pallide coccineum cylindrico-trigonum, brevissime pubescens 30—34 mm. longum; *segmenta exteriora* per 10—12 mm. libera, obscure 3-nervata, interiora latiora. *Antherae* 2—3 mm. exsertae. *Stigma* demum 4 mm. exserta. *Ovarium* 6 mm. longum, 3 mm. diametro. (Plates XX, XXI.)

HABITAT: Somaliland Protectorate: Foot of Sheikh Pass, cult. Nairobi, fl. 1943, Bally B. 9661 (EA); 4 miles north-east of Darburruk, 15 Jan. 1954, Bally B. 10383 (EA); Ged Dehti, 20 miles north of Hargeisa, 27 Sept. 1957, Bally B. 11767 (EA); 4 miles north-west of Bawn on Zeila road, 23 Oct. 1957, Bally B. 11920 (EA); 5 miles N.W. of Bawn, 36 miles N.W. of Borama, 3,900 ft., c. 10° 13' N., 43° 03' E., 31 Aug. 1957, Reynolds 8369 holotype (PRE), isotype (K, EA).

Mr. Bally collected plants (without flowers) and seeds of this species in 1943 and 1949, about 4 miles beyond Darburruk on the Hargeisa-Berbera road, at 3,400 ft. In 1954 and in 1956 he found plants in flower.

On 31 August 1957 I found large numbers of plants, many in flower, 5 miles north-west of Bawn, 36 miles beyond Borama, and 112 miles westwards from Hargeisa on the road to Zeila, at 3,900 ft. altitude. This species continues for about 20 miles along the Zeila road down to 2,750 ft.

A. rigens, and the var. *glabrescens*, is the most widespread species in the Protectorate and extends from the Bawn area eastwards to Ged Dehti 20 miles north of Hargeisa, eastwards to near Darburruk (55 miles from Hargeisa), also south of Berbera between Bihendula and Hudiso (at 2,300 ft.), near the foot of Sheikh Pass and for a few miles up the pass to 3,900 ft.

On the flats of Gaan Libah, 9 miles north-west of Ghor, a very robust form was seen at 5,100 ft. A cross with *A. megalacantha* was also noticed there.

The western typical form of *A. rigens* is characterized by having very large rosettes of rather bright green, very rigid leaves up to 80 cm. long and 12—15 cm. broad, an inflorescence of up to 1.75 met. high, short 5—6 mm. pedicels, and perianths that are very shortly puberulent.

A. rigens seems to be nearest allied to *A. trichosantha* Berger, which I have seen in large numbers at Ginda (type locality) between Asmara and Massawa in Eritrea. *A. trichosantha* is, however, a smaller plant with shorter leaves, and has perianths that are conspicuously albotomentose.

DESCRIPTION: *Plant* succulent, acaulous or with short stem, mostly solitary, sometimes in small groups.



PLATE XX. *Aloe regens* Reynolds et Bally
Plant 5 miles north-west of Bawn, 36 miles north-west of Borama. Height 1.70 met.



PLATE XXI. *Aloe rigens* Reynolds et Bally
Flowers 1/1, from a plant 5 miles north-west of Bawn, 36 miles north-west of Borama.
Flowering Aug-Sept. 1957.



PLATE XXII. *Aloe rigens* Reynolds et Bally, var. *glabrescens* Reynolds et Bally
Plants on the Baaroh Plain 16 miles north of Adad Kularle, 28 miles south of El
Afwein, on road to Erigavo. Height 1 met.



PLATE XXIII. *Aloe rigens* Reynolds et Bally var. *glabrescens* Reynolds et Bally
Flowers 1/1 from bud to fruit stage, from a plant on the Baaroh Plain, 28 miles
south of El Afwein, on road to Erigavo.

Leaves about 24, densely rosulate, varying from arcuate-ascending to suberectly spreading, very rigid, 60—80 cm. long, 12—15 cm. broad at base, gradually narrowing to the apex, 15—25 mm. thick at base; *upper surface* unicoloured pale to darker grey-green, sometimes with reddish tinge, slightly canaliculate; *lower surface* convex, similar in colour; *margins* armed with isolated pungent deltoid teeth that are 4—6 mm. long, 20—35 mm. apart, paler at base, reddish brown in upper half; *sap* dries yellow to orange.

Inflorescence branched, 1.25—1.75 met. high.

Peduncle basally plano-convex and 3 cm. broad, terete upwards, brown with a bloom, 3—4-branched from the middle or lower.

Racemes narrowly cylindric-acuminate, 20—30 cm. long, 6 cm. diam., youngest buds sometimes covered by densely imbricate bracts, older buds spreading horizontally, open flowers nutant to subpendulous.

Bracts up to 15 mm. long, 6 mm. broad, thin, scarious, white, rather brittle, 7—9-nerved.

Pedicels 5—6 mm. long, minutely puberulent.

Perianth rose-pink to dull scarlet, very shortly puberulent, cylindric-trigonal, 30—34 mm. long, basally obtuse, 7 mm. diam. across the ovary, very slightly curved, the mouth open; *outer segments* free for 10—12 mm., obscurely 3-nerved, the nerves greenish at apex, the apices subacute, slightly spreading; *inner segments* broader than the outer, and with more obtuse, more spreading apices.

Filaments pale lemon, the 3 inner narrower and lengthening before the 3 outer with their *anthers* in turn exerted 2—3 mm.

Stigma at length exerted 4 mm. *Ovary* pale olive, 6 mm. long, 3 mm. diam.

Somali name: *Daar merodi* (elephant aloe).

A. rigens Reynolds et Bally var. **glabrescens** Reynolds et Bally. Var. nov., a typico foliis brevioribus, inflorescente brevior, perianthio glabro differt. (Plates XXII, XXIII.)

HABITAT: Somaliland Protectorate: On the Baaroh Plains, 16 miles north of Adad Kularie (28 miles south of El Afwein) on the road to Erigavo, 2,700 ft., c. 9° 27' N., 46° 55' E., a few in flower on 6 Sept. 1957, Reynolds 8390 holotype (PRE), isotype (K, EA).

The eastern form is well worth varietal rank and differs from the typical in having thinner, shorter, more triangular greyish brown leaves that are more spreading to recurved and only 50 cm. long. The inflorescence is 3—4-branched from below the middle and only 75—100 cm. tall, with the apical buds of racemes usually not hidden by densely imbricate bracts. The perianth is usually glabrous although sometimes

under a lens it is minutely pubescent. The variety occurs along the Burao-Erigavo road where it is first seen at Adad Kularle. Mr. Bally photographed a flowering plant there in November 1954. It occurs in considerable numbers on the Baaror Plain, 16 miles north of Adad Kularle (c. $9^{\circ} 27' N.$, $46^{\circ} 55' E.$), and for 28 miles northwards to El Afwein. The northern limit is Kal Sheikh, a few miles north of El Afwein. North of Kal Sheikh a totally different species, *A. tomentosa* Deflers, comes in, and the two do not appear to overlap.

Numbers occur to the east of Burao, near Kirit, and between Kirit and Ainabo on the road to Las Anod. The weakest form seen was on low gypsum hills a few miles south of Las Anod.

DESCRIPTION: *Plants* in small to large groups. *Stem* none, short, or sometimes decumbent and up to 50 cm. long.

Leaves 18—24, densely rosulate, ascending-spreading to recurved, 40—50 cm. long, 10—12 cm. broad; *upper surface* uniformly grey-green with reddish tinge, slightly canaliculate; *lower surface* convex; *margins* armed with reddish brown pungent deltoid teeth that are 3 mm. long, 10 mm. apart low down, 15—20 mm. apart upwards.

Inflorescence 3—4-branched, 75—100 cm. high.

Racemes cylindric-acuminate, 25 cm. long, 5—6 cm. diam., youngest buds usually not hidden by imbricate bracts.

Bracts broadly ovate-acute, 9 mm. long, 4 mm. broad, thin, scarious, dirty white, 7—9-nerved.

Pedicels 5 mm. long.

Perianth strawberry-pink, paler to greenish at mouth, cylindric-trigonous, 32 mm. long, glabrous or minutely pubescent under a lens; *outer segments* free for 9 mm.

Anthers in turn exerted 3—4 mm. *Stigma* at length exerted 5 mm.

Ovary 7 mm. long, 3 mm. diam.

A. Gloveri Reynolds et Bally. Species nova, affinis *A. megalacanthae* Bak., caulibus gracilioribus suberectis patentibus vel procumbentibus, racemis laxioribus, floribus brevioribus differt.

Planta frutescens, caulibus suberectis, patentibus vel procumbentibus, saepe 50—100 cm. longis.

Folia lanceolato-attenuata, 20—30 cm. longa, 4—6 cm. lata, patula vel leviter recurva; supra viridula, basi planiuscula, superne leviter canaliculata; subtus convexa, marginibus dentibus 2—3 mm. longis, 8—10 mm. distantibus armata. *Inflorescentia* 8—12-ramosa, paniculata, c. 50 cm. longa, ramis divaricatis virgatis. *Racemi* laxi, cylindrici, 10—18 cm. longi, 5 cm. diametro. *Bractee* ovato-acutae, 3 mm. longae,



PLATE XXIV. *Aloe Gloveri* Reynolds et Bally
Plants on Gaan Libah, 12 miles north-west of Ghor. Height 50 cm. Flowers yellow,
1/1, from bud to post-pollination stage.

2 mm. latae, albidae, scariosae, 1-nervatae. *Pedicelli* 10—15 mm. longi. *Perianthium* luteum, aurantiacum vel coccineum, cylindrico-trigonum, 26—30 mm. longum; *segmenta exteriora* per 12 mm. libera, obscure 3-nervata. *Antherae* 3 mm. exsertae. *Stigma* demum 4 mm. exserta. *Ovarium* viridulum, 6 mm. longum, 3 mm. diametro. (Plate XXIV.)

HABITAT: Somaliland Protectorate: Sheikh Pass, 4,000—5,000 ft., 12 Feb. 1954, flowers bright red, Bally B. 9659 (EA); Gaan Libah, 12 miles N.W. of Ghor, c. $9^{\circ} 53' N.$, $44^{\circ} 47' E.$, alt. 5,300 ft., 29 Aug. 1957, yellow flowers, Reynolds 8358 holotype (PRE), isotype (K, EA); same locality, red flowers, Reynolds 8359 (PRE); north slopes of Sheikh Pass, c. $9^{\circ} 53' N.$, $45^{\circ} 12' E.$, alt. 3,700—4,600 ft., 28 Aug. 1957, Reynolds 8346 (PRE); 17 miles north of Erigavo on road to Mait in dry bush country, c. $10^{\circ} 50' N.$, $47^{\circ} 13' E.$, 3,600 ft., 8 Sept. 1957, Reynolds 8426 (PRE, K, EA).

Our new species is named after Major P. E. Glover who originally discovered it on Gaan Libah in 1944. Major Glover has contributed much to the knowledge of the flora of the Protectorate; his *Provisional Check List of British and Italian Somaliland Trees, Shrubs and Herbs* was published in 1947.

A. Gloveri is a plant of shrubby growth with stems that are branched at base, and are oblique, procumbent, or rambling over rocks. It occurs on Gaan Libah at 5,200 ft. altitude in an area receiving 25—30 inches of rainfall annually, near the edge of the scarp, yellow-flowered plants being more plentiful than red. At this locality, several crosses with *A. megalacantha* Bak. were seen.

It grows abundantly on northern slopes near the top of Sheikh Pass, while Mr. Bally has found it on Wagar Mountain to the east and on the Fodjor escarpment west of Sheikh Pass.

Much further east in the Erigavo district, forms of *A. Gloveri* occur from the northern end of the Tabah Pass at 6,000 ft., and 7 miles further down the spectacular escarpment road. It occurs in large numbers at mile 17 from Erigavo, at 3,600 ft., in dry bush country.

The species is variable in size of leaves, and flower colours vary from yellow and orange to scarlet. In very robust forms 4 inflorescences may be produced simultaneously, 1—2 being the average.

A. Gloveri is the only species known to me in Somaliland Protectorate with a sprawling habit of growth. It is allied to *A. megalacantha* Bak. but the latter is a much larger plant with erect stems, much larger deeply channelled recurved leaves, and different flowers. The main flowering time, it seems, is December—January.

DESCRIPTION: *Plant* of shrubby growth, branched at base, with stems divergent, lying along the ground, or rambling over rocks.

Stems 3—4 cm. diam., usually 50 cm.—1 met. long, the apical 30—50 cm. subdensely foliate.

Leaves lanceolate-attenuate, 20—30 cm. long, 4—6 cm. broad at base, spreading to slightly recurved; *upper surface* dull green, with or without a few white lenticular spots, flat low down, slightly canaliculate upwards; *lower surface* convex, similar to upper surface; *margins* armed with isolated pungent deltoid reddish brown teeth that are 2—3 mm. long, 8—10 mm. apart, the interspaces the colour of the leaf, the teeth usually more crowded low down, more spaced upwards; *sap* dries orange-brown.

Inflorescence a branched panicle about 50 cm. long, usually produced obliquely, sometimes 2—4 simultaneously in very robust growth forms.

Peduncle plano-convex and 12 mm. broad at base, branched at the middle or lower, with 8—12 divaricate virgate branches, the lowest 1—2 branches sometimes with 2—4 branchlets.

Racemes cylindric slightly conical, the terminal 10—18 cm. long, 5 cm. diam., rather laxly flowered, the flowers evenly distributed in erect racemes, somewhat subsecund in oblique racemes, lateral racemes slightly shorter than the terminal.

Bracts very small, ovate-acute, averaging 3 mm. long, 2 mm. broad, white, thin, scarious, 1-nerved.

Pedicels 10—15 mm. long.

Perianth yellow, orange, or dull scarlet with a bloom, cylindric-trigonus, 26—30 mm. long, basally obtuse, 8 mm. diam. across the ovary, thence trigonus and narrowing slightly to the mouth; *outer segments* free for 12 mm., obscurely 3-nerved, the apices subacute slightly spreading; *inner segments* free but dorsally adnate to the outer to the middle, broader than the outer and with broader more obtuse apices.

Filaments lemon, the 3 inner narrower and lengthening before the 3 outer with their *anthers* in turn exerted 3 mm.

Stigma at length exerted 4 mm.

Ovary pale green, 6 mm. long, 3 mm. diam..

A. retrospiciens Reynolds et Bally. Species nova, affinis *A. gracilicaulis* Reynolds et Bally, foliis brevioribus, dentibus brevioribus 1 mm. longis albidis, racemis capitatis, floribus subsecundis retrospicientis differt.

Planta fruticosa, caulibus basi 2—6-ramosis, 1—1.25 met. longis, 3 cm. crassis. *Folia* c. 12, patula recurvula, 25 cm. longa, 5—6 cm. lata, sensim attenuata; *supra* glauca, planiuscula, superne leviter canaliculata; *subtus* convexa; marginibus dentibus cartilagineis albidis 1 mm. longis, 5 mm. distantibus armata. *Inflorescentia* divaricato-ramosa, 45 cm.



PLATE XXV. *Aloe retrospiciens* Reynolds et Bally
Plants on north side of Darburruk Tug, 55 miles north-east of Hargeisa on road
to Berbera. Height 2 met.



PLATE XXVI. *Aloe retrospiciens* Reynolds et Bally
Flowers 1/1, from bud to post-pollination stage, from a plant on north side of
Darburruk Tug.

longa, c. 10-ramosa subhorizontaliter patula. *Racemi* subdensi, c. 3 cm. longi, 5 cm. diametro, floribus subsecundis, retrospicientis. *Pedicelli* 5—6 mm. longi. *Bractae* anguste ovato-deltaeidae, scariosae, albiae, 5 mm. longae, 2.5 mm. latae, obscure 3-nervatae. *Perianthium* luteum, cylindrico-trigonum, 20 mm. longum, circa ovarium 6 mm. diametro; *segmenta exteriora* per 10 mm. libera (tubus 10 mm.), obscure 3-nervata; interiora latiora. *Antherae* 3 mm. exsertae. *Stigma* demum 4 mm. exserta. *Ovarium* viridulum, 3 mm. longum, 2 mm. diametro. (Plates XXV, XXVI.)

HABITAT: Somaliland Protectorate: At Darburruk, 55 miles north-east of Hargeisa on Berbera road, c. 9° 52' N., 44° 30' E., alt. 2,700 ft., 21 Sept. 1957, Reynolds 8482 holotype (PRE), isotype (K, EA).

Our very distinctive new species grows on both sides of Darburruk Tug (watercourse) near Darburruk village, about 55 miles north-east of Hargeisa on the road to Berbera, mostly among boulders in sandy soil, and under very arid conditions. The village is named after this Aloe, which the Somalis call *Daar buruk*.

A. retrospiciens sometimes has a simple stem, but plants are usually 2—6-branched (and more) at ground level. The leaves are bluish grey with a bloom and have a reddish tinge. The inflorescence is divaricately branched, the slender branches being obliquely to horizontally disposed. The terminal raceme is erect with the flowers evenly distributed around the axis, but in horizontal racemes the flowers are more or less secund, lying along the upper side of the axis, with all buds and flowers pointing backwards. It was this character that suggested the specific epithet.

The 20 mm. cylindric-trigonous flowers are closely allied to those of *A. gracilicaulis* and *A. medishiana*, both of which occur much further east in the Erigavo District, but the three could scarcely be confused. *A. gracilicaulis* has much longer deeply channelled leaves, while *A. medishiana* has longer pedicels and outer segments free for only 6 mm. Neither has flowers secund and pointing backwards.

Mr. Bally has found plants—not flowering at the time—near Elan Gubato (near Hudiso at the foot of Sheikh Pass), which appear to belong to *A. retrospiciens*.

DESCRIPTION: *Plant* of shrubby growth, with stem sometimes simple, but mostly 2—6-branched at base and forming compact shrubs. *Stem* 1—1.25 met. high, about 3 cm. thick.

Leaves c. 12, crowded at apex of stem, rosulate, spreading to recurved, averaging 25 cm. long, 5—6 cm. broad at base, gradually narrowing to an obtuse apex, the apex with a few very small cartilaginous firm

white teeth; *upper surface* bluish grey with reddish tinge, flat low down, slightly canaliculate upwards, usually unicoloured but occasionally with a few scattered small white spots low down; *lower surface* convex, otherwise as upper surface; *margins* with a continuous white cartilaginous edge armed with firm white teeth that are 1 mm. long and 5 mm. apart, low down, and gradually smaller and more distant upwards, sometimes obsolete near apex.

Inflorescence a divaricately branched panicle averaging 45 cm. long.

Peduncle plano-convex and 12—15 mm. broad at base, terete upwards, about 10-branched from the middle or lower, the lowest branches obliquely to almost horizontally disposed and up to 20 cm. long, including the raceme.

Racemes subdensely flowered, the terminal usually erect and about 3 cm. long, 5 cm. diam., with the flowers evenly distributed around the axis, in racemes of oblique to horizontal branches the buds and flowers mostly secund, lying along the top of the axis and all pointing backwards.

Bracts narrowly ovate-deltoid, thin, scarious, white, 5 mm. long, 2.5 mm. broad, obscurely 3-nerved.

Pedicels 5—6 mm. long.

Perianth yellow with greenish tips, cylindric-trigonus, averaging 20 mm. long, 6 mm. diam. across the ovary, thence slightly trigonus; *outer segments* free for 10 mm. (tube 10 mm.), obscurely 3-nerved, the nerves greenish, the apices subacute slightly spreading; *inner segments* broader than the outer and with more obtuse more spreading apices.

Filaments pale lemon, the 3 inner narrower and lengthening before the 3 outer with their *anthers* in turn exserted 3 mm.

Stigma at length exserted 4 mm.

Ovary light green, 3 mm. long, 2 mm. diam.

A. gracilicaulis Reynolds et Bally. Species nova, affinis *A. retrospiciens* Reynolds et Bally, caulibus longioribus, foliis longioribus canaliculatisque, racemis longioribus laxioribus, floribus patulis non retrospicientis differt.

Planta frutescens; caulis simplex vel a base ramosus, 3—4 met. longus. *Folia* c. 20, rosulata, ensiformia, 50—60 cm. longa, 8 cm. lata; *supra* glauco-virida, canaliculata; *subtus* convexa; marginibus dentibus albidis 1 mm. longis, 2—10 mm. distantibus armata. *Inflorescentia* c. 10-ramosa, paniculata, c. 60 cm. alta, ramis virgatis. *Racemi* cylindrici, 5—6 cm. longi, 5 cm. diametro. *Bracteae* ovato-acutae, 3 mm. longae, 2 mm. latae, albae, 1—3-nervatae. *Pedicelli* 5—6 mm. longi. *Perianthium* luteum, cylindrico-trigonum, 18 mm. longum, circa ovarium 5 mm. diametro; *segmenta exteriora* per 12 mm. libera (tubus 6 mm.), obscure 3-nervata. *Antherae* 3—4 mm. exsertae. *Stigma* demum 4—5 mm.



PLATE XXVII. *Aloe gracilicaulis* Reynolds et Bally
Plants in dry bush country, 19 miles north of Erigavo on road to Mait, alt. 3,800 ft.
Flowering in September 1957. Height 3 met.



PLATE XXVIII. *Aloe gracilicaulis* Reynolds et Bally
Flowers yellow, 1/1, from bud to post-pollination stage.

exserta; *Ovarium* viridulum, 5 mm. longum, 2 mm. diametro. (Plates XXVII, XXVIII.)

HABITAT: Somaliland Protectorate: In dry bush country 19 miles north of Erigavo on Mait road, alt., 3,800 ft., c. 10° 51' N., 47° 14' E., 9 Sept. 1957, Reynolds 8428 holotype (PRE), isotype (K, EA).

A. gracilicaulis grows in some numbers in dry bush country, on lower slopes of the Kol Hosis range, 19—20 miles northwards from Erigavo on the road down to Mait, between 3,800 ft. at mile 19, and 3,600 ft. at mile 20. Plants occur with stems simple or branched at base, the stems varying from 2—4 met. in height. Leaves are rather deeply channelled and recurved, while apices of lowest leaves point downwards. The inflorescence is a much-branched panicle with yellow flowers only 18 mm. long.

A. gracilicaulis is allied to *A. retrospiciens* at Darburruk (on the Hargeisa-Berbera road) but the latter has shorter slenderer stems, shorter less channelled leaves, and denser shorter capitate racemes with the flowers somewhat subsecund and pointing backwards.

A. medishiana Reynolds et Bally, at Medisha, 24 miles north-east of Erigavo, is a close ally, but this species has shorter less recurved leaves, longer (9 mm.) pedicels, and scarlet perianths with the outer segments free for only 6 mm.

The Somali name for *A. gracilicaulis* is *Daar der*, the tall Aloe.

DESCRIPTION: *Plant* with stem simple, or branched at base and becoming shrubby. *Stem* 2—4 met. tall, 8—10 cm. diam. near ground level, about 6 cm. diam. at the middle, glabrous except for persistent dried leaf remains for 30—50 cm. below the rosette of leaves.

Leaves about 20, rosulate, crowded at apex of stem, ensiform, basally sheathing, 8 cm. broad at base, gradually narrowing to an acute apex, 50—60 cm. long, youngest leaves erectly spreading, the oldest much recurved with their apices pointing downwards; *upper surface* unicoloured grey-green, flat at base, deeply canaliculate upwards; *lower surface* rounded; *margins* with 1 mm.-broad white cartilaginous border armed with white cartilaginous blunt teeth 1 mm. long, irregularly 2—10 mm. apart, usually more crowded low down, more distant upwards.

Inflorescence a branched panicle averaging 60 cm. tall, 2—3 simultaneously.

Peduncle basally plano-convex and 15 mm. broad, terete upwards, divaricately about 10-branched from below the middle, the 1—2 lowest branches with 3—5 branchlets, less rebranched upwards, the branches very slender (about 4 mm. thick).

Racemes cylindric, subdensely flowered, 5—6 cm. long, 5 cm. diam.,

youngest buds sub-erect and denser, slightly laxer downwards, open flowers nutant, whole raceme yellow.

Bracts ovate-acute, 3 mm. long, 2 mm. broad, white, scarious, 1—3-nerved.

Pedicels averaging 5—6 mm. long.

Perianth yellow, cylindric-trigonous, averaging 18 mm. long, 5 mm. diam. across the ovary, thence trigonous, the mouth open; *outer segments* free for 12 mm. (tube 6 mm.), thin at the margins, obscurely 3-nerved, apices sub-acute, slightly spreading; *inner segments*, free but dorsally adnate to the outer for 6 mm., broader than the outer, almost white with yellow keel, the apices more obtuse and more spreading.

Filaments white, the 3 inner narrower and lengthening before the 3 outer with their *anthers* in turn exerted 3—4 mm. *Stigma* at length exerted 4—5 mm.

Ovary pale green, 5 mm. long, 2 mm. diam.

A. medishiana Reynolds et Bally. Species nova, affinis *A. gracilicaulis*, caulibus brevioribus, foliis brevioribus supra leviter convexis, racemis pedicellisque longioribus, tubo brevior differt.

Planta frutescens, caulibus ad 2 met. altis, e basi ramosis. *Folia* c. 24, subrosulata, ensiformia, patentia vel decurva, usque ad 30 cm. longa, 5.5 cm. lata; *supra* viridula, planiuscula vel levissime convexa; *subtus* rotunda; marginibus dentibus cartilagineis 1 mm. longis, basi crebrioribus superne remotioribus armata. *Inflorescentia* saepe 2, c. 50 cm. alta, 6—8-ramosa. *Racemi* sublaxi, cylindrici, 8—10 cm. longi, 5 cm. diam. *Bractae* ovato-acutae, 2—3 mm. longae, 2 mm. latae, scariosae, albiae, 1—3-nervatae. *Pedicelli* 9 mm. longi. *Perianthium* coccineum, cylindrico-trigonum, 19 mm. longum, circa ovarium 5 mm. diametro; *segmenta exteriora* per 5—6 mm. libera (tubus 13 mm. longus). *Antherae* 1—2 mm. exsertae. *Stigma* demum 3 mm. exserta. *Ovarium* pallide brunneum, 4 mm. longum, 2.5 mm. diametro. (Plate XXIX.)

HABITAT: Somaliland Protectorate: Exposed rocky slopes at Medishe, 24 miles north-east of Erigavo, c. 10° 36' N., 47° 34' E., c. 4,800 ft. alt., 10 Sept. 1957, Reynolds 8441 holotype (PRE), isotype (K, EA).

A. medishiana was found by Mr. Bally in November 1954, and by myself in September 1957, in large numbers on exposed rocky slopes at Medishe, which is 24 miles north-east of Erigavo at about 4,800 ft. altitude. In floral characters it is closely allied to *A. gracilicaulis* at mile 19 from Erigavo on the road down to Mait, but *A. medishiana* differs in having shorter more spindly stems, leaves narrower and half as long, with the upper surface flat to slightly convex (not deeply canaliculate), longer pedicels, and red perianths with outer segments free for only 6 mm.



PLATE XXIX. *Aloe medishiana* Reynolds et Bally
 Plants on rocky slope at Medishe, 24 miles north-east of Erigavo. Height 2.25 met.
 Flowers red, 1/1, from bud to post-pollination stage.

Near Geldin in the far-eastern Al Madu, Mr. Bally has found plants with leaves 6.5 cm. broad, 38 cm. long, and with more capitate racemes (Bally B. 11142). This might belong here but further investigation is necessary.

The Somali name for *A. medishiana* is *Daar der*, the tall Aloe.

DESCRIPTION: *Plant* sometimes with simple stem, but mostly with stems branched at base and of shrubby growth, the stem smooth, up to 2 met. tall, 3—3.5 cm. diam.

Leaves about 24, crowded along the apical 20 cm. of stems, ensiform, spreading to decurved, up to 30 cm. long, 5.5 cm. broad at base, gradually narrowing to the apex; *upper surface* grey-green, without spots or markings, flat to slightly convex; *lower surface* rounded, otherwise as in upper surface; *margins* with a continuous narrow white cartilaginous edge armed with very small firm white teeth that are about 1 mm. long and more crowded (5 mm. apart) low down, more distant (10 mm. apart) to obsolescent upwards.

Inflorescence a branched panicle about 50 cm. tall, sometimes 2 simultaneously.

Peduncle brown with a bloom, plano-convex and 15 mm. broad at base, branched at the middle or higher with 6—8 branches, the lowest of which sometimes with 3—5 branchlets, the whole inflorescence producing about 15 racemes.

Racemes cylindric, averaging 8—10 cm. long, 5 cm. diam., subclaxly flowered, the buds spreading, the open flowers nutant.

Bracts ovate-acute, 2—3 mm. long, 2 mm. broad, thin, dry, white, 1-nerved, or with a faint nerve on each side appearing as 3-nerved.

Pedicels averaging 9 mm. long.

Perianth dull scarlet, cylindric-trigonous, 19 mm. long, 5 mm. diam. across the ovary, thence very slightly curved and trigonous upwards; *outer segments* connate into a tube to beyond the middle (free for 5—6 mm. only), obscurely 3-nerved, the apices subacute and slightly spreading; *inner segments* broader than the outer and with more obtuse more spreading apices.

Filaments white, the 3 inner narrower and lengthening before the 3 outer with their *anthers* in turn exserted 1—2 mm.

Stigma at length exserted 3 mm. *Ovary* pale brown 4 mm. long, 2.5 mm. diam.

A. eminens Reynolds et Bally. Species nova, affinis *A. sabaeae* Schweinf. (Yemen), foliis brevioribus angustioribus dentibus crebrioribus,

racemis brevioribus, bracteis brevioribus 1-nervatis, pedicellis brevioribus, tubo longiore differt.

Planta alte arborescens, copiose ramosa, 10—15 met. alta, truncus basi usque ad 1.5 met. diam. *Folia* c. 16—20, rosulata, recurva, valde canaliculata, 40—45 cm. longa, 5 cm. lata; marginibus dentibus cartilagineis albidis 2—3 mm. longis, 3—5 mm. distantibus superne obsolescentis armata. *Inflorescentia* 50—60 cm. alta, 3—5-ramosa. *Racemi* conico-cylindrici, subdensi, c. 16 cm. longi, 8—9 cm. diametro. *Bracteae* anguste deltoideae, pallide brunneae, 6 mm. longae, 3 mm. latae, 1-nervatae. *Pedicelli* 10 mm. longi. *Perianthium* rubrum, cylindrico-trigonum, c. 40 mm. longum, circa ovarium 12 mm. diametro; *segmenta exteriora* per 32 mm. libera (tubus 6—8 mm. longus). *Antherae* 3—4 mm. exsertae; *stigma* demum 5 mm. exserta. *Ovarium* viridulum, 6 mm. longum, 4 mm. diametro. (Plates XXX—XXXII.)

HABITAT: Somaliland Protectorate: In a ravine of the Surud, west side of Tabah Pass, 11 miles north-west of Erigavo, c. 10° 46' N., 47° 14' E., 6,000 ft. alt., 9 Sept. 1957, Reynolds 8435 holotype (PRE), isotype (K, EA).

A. eminens occurs in numbers in sheltered well-wooded ravines of the Surud, 11 miles north of Erigavo at 6,000 ft., and repeatedly for the next 7 miles down the spectacular escarpment road (which leads to Mait on the coast) down to 4,500 ft. It was not seen in drier bush country at lower altitudes. Mr. Bally has also found it along the Al Madu range much further east.

A. eminens is a tree 30—40 ft. and more in height, and is irregularly branched and of somewhat straggly untidy growth. Sometimes a few slender very elongated branches stand out above the others. The leaves of young plants may be larger, but in mature specimens they are only 45 cm. long and 5 cm. broad, with a cartilaginous marginal edge armed with firm (not pungent) blunt white teeth that are 2—3 mm. long, 3—5 mm. apart, becoming obsolescent towards the apex. Racemes are sub-densely flowered and average 16 cm. long, while bracts are narrowly deltoid, only 6 mm. long and 1-nerved. Pedicels average 10 mm. long, and the perianths are 40 mm. long, rather thick and fleshy, and glossy red. At a quick glance *A. eminens* recalls *A. Bainesii* Th. Dyer in South Africa, but the latter is a quite different species with much larger leaves, densely flowered racemes 20—30 cm. long, bracts linear and coiled backwards, shorter perianths with anthers exserted 15 mm. and more.

A. sabaea Schweinfurth from the Yemen is a closer ally. I have not seen plants, and this species is known to me only from Schweinfurth's and Berger's descriptions, and from the material in Kew of Schweinfurth



PLATE XXX. *Aloe eminens* Reynolds et Bally
In the Surud, 11 miles north-west of Erigavo, alt. 6,000 ft. (1,800 met). Height 15 met.



PLATE XXXI. *Aloe eminens* Reynolds et Bally
13 miles north of Erigavo on road to Mait, alt. 5,500 ft. (1,650 met.). Height 10 met.
Photo: Mr. P. R. O. Bally.



PLATE XXXII. *Aloe eminens* Reynolds et Bally
 Left: Raceme $\times 1.5$ approx. Right: Flowers $1/1$ from bud to fruit stage, from 2
 different plants.

941 from the Yemen in Arabia. *A. sabaea* differs from *A. eminens* in having much larger leaves, more widely spaced teeth, longer racemes, much longer broader 5-nerved bracts, pedicels up to twice as long, shorter perianths with segments free almost to base ("tubo brevissime").

I had hoped to study *A. sabaea* in the Yemen, but hostilities along the Aden-Yemeni border made that impossible.

A. eminens flowers mostly from November to January, and is called *Daar der*—the tall Aloe—by the Somalis.

DESCRIPTION: A tree 10—15 met. high. *Stem* up to 1.5 met. diam. at ground level, more slender upwards, irregularly branched, the branches slender.

Leaves 16—20, rosulate at apices of branches, basally sheathing-imbricate, the imbricate portion with 5 mm. broad white border, about 5 cm. broad at base, 40—45 cm. long, gradually narrowing to an obtuse apex, the leaves recurved with their apices pointing downwards; *upper surface* unicoloured dull green, rather deeply canaliculate and "U"-shaped in cross section; *lower surface* rounded; *margins* with narrow white cartilaginous edge armed with blunt cartilaginous (not pungent) white teeth that are longer (2—3 mm. low down and 3—5 mm. apart, becoming smaller to obsolescent upwards except for a few short crowded teeth in the apical 4—5 cm.

Inflorescence branched, averaging 50—60 cm. high.

Peduncle basally plano-convex and 15 mm. broad, 3—5-branched from below the middle.

Racemes subdensely flowered, broadly cylindric-acuminate, averaging 16 cm. long, 8—9 cm. diam., the apex a tuft of dried bracts, the youngest buds suberect, older buds spreading, open flowers nutant.

Bracts narrowly deltoid, 6 mm. long, 3 mm. broad, pale brown, thin, scarious, 1-nerved, the nerve raised and prominent.

Pedicels averaging 10 mm. long.

Perianth red, somewhat glossy, rather thick and fleshy, cylindric-trigonus, averaging 40 mm. long, basally obtuse to rounded, 12 mm. diam. across the ovary, thence trigonus and slightly narrowing to the mouth; *outer segments* free for about 32 mm. (tube 8 mm.), the apices subacute and spreading; *inner segments* broader than the outer, obtusely keeled, with thin margins, the apices more obtuse and more recurved to revolute.

Filaments yellow, the 3 inner narrower and lengthening before the 3 outer with their *anthers* in turn exserted 3—4 mm.

Stigma at length exserted 5 mm.

Ovary pale green, 6 mm. long, 4 mm. diam.

Capsule 30 mm. long, 21 mm. diam. at the middle.

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